520
Accession number:WOS:000306862200007
Title:Multi-Frequency Terahertz Square Microstrip Patch Antenna on Two-Layer Photonic Crystal Substrates
Authors:Yang, L.C. (1); Zhou, X.L. (1); Wang, Y.G. (1)
Author affiliation: (1) Univ Elect Sci & Technol China, Sch Phys Elect, Chengdu 610054, Peoples R China
Source title:JOURNAL OF COMPUTATIONAL AND THEORETICAL NANOSCIENCE
Abbreviated source title:J COMPUT THEOR NANOS
Volume:9
Issue:7
Issue date:JUL 2012
Pages:936-941
Language:English
ISSN:1546-1955
Document type:Article
Publisher:AMER SCIENTIFIC PUBLISHERS, 26650 THE OLD RD, STE 208, VALENCIA, CA 91381-0751 USA
Abstract:In this paper, two dimensional photonic crystals working at terahertz frequency is investigated. A multi-frequency terahertz square microstrip patch antenna on two-layer photonic crystal substrates is presented and Computer Simulation Technology Microwave Studio is used to simulate its electromagnetic wave transmission properties. The proposed antenna can work at five frequency point's scope in which the photonic crystals are used to enhance the gain, directivity, bandwidth, and radiation efficiency of the proposed antenna. The corresponding enhancements are similar to 17 dB, similar to 17 dBi, similar to 39% and similar to 90% at terahertz frequency regions, respectively.
Number of references:25
Main heading:Chemistry; Science & Technology - Other Topics; Materials Science; Physics
DOI:10.1166/jctn.2012.2120